

WE CLAIM

1. A die plate for extrusion apparatus, the die plate (42) having:
first coupling means (80,82) for coupling the die plate (42) on a first side thereof to
5 an extruder defining a longitudinal axis,
second coupling means (54) for coupling the die plate on a second side thereof to
a cutter assembly disposable on said longitudinal axis,
apertures (44) through which extrudate is received from the extruder and extruded
for cutting into predetermined lengths by said cutter assembly,
10 a fluid inlet passage (56) for receiving fluid into the die plate for delivery to said
cutter assembly in use, and
a fluid outlet passage (60) for receiving fluid from said cutter assembly for discharge
from the die plate (42), the cutter assembly having a fluid driven motor for rotating
a cutter transversely to said longitudinal axis into the path of movement of
15 extrudate so as to sever the extrudate in use.
2. A die plate according to Claim 1 having a peripheral edge (92) adjoining said
first and second sides, the fluid inlet passage (56) and fluid outlet passage (60) each
having a radial portion extending radially through said peripheral edge toward a
20 central area (88) of the die plate where each passage terminates in a respective
longitudinal portion extending through said second side of the die plate.
3. A die plate according to claim 1 or claim 2 wherein said first and second
coupling means comprise a plurality of mounting apertures (80, 90) for receiving
25 respective fasteners (82, 54) through the die plate.
4. A die plate according to any one of the preceding claims having thermal
insulation means between the fluid inlet and outlet passages and the extrudate
apertures.
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5. A die plate according to claim 4 wherein the thermal insulation means
comprises a gap into which a gas may enter.
6. A die plate and cutter assembly, comprising a die plate (42) having first
35 coupling means (80, 82) for coupling the die plate on a first side thereof to an
extruder (40), defining a longitudinal axis,

second coupling means (54, 90) for coupling the die plate on a second side thereof to a cutter assembly (46) disposed on said longitudinal axis, apertures (44, 86) through which extrudate is received from the extruder (40) and extruded for cutting into predetermined lengths by said cutter assembly (46),
5 a fluid inlet passage (56) for receiving fluid into the die plate for delivery to said cutter assembly (46), and
a fluid outlet passage (60) for receiving fluid from said cutter assembly for discharge from the die plate (42),
the cutter assembly (46) having a fluid-driven motor (52) coupled to said second
10 side of the die plate and adapted to receive motor-driving fluid from said fluid inlet passage (56) and to discharge said fluid into said fluid outlet passage (60), and
a rotatable cutter driven for rotation transversely to said longitudinal axis by said motor, into the path of movement of extrudate so as to sever the extrudate.

15 7. An assembly according to claim 6 in which the rotatable cutter includes a housing (47) coupled for rotation to said motor (52), the motor being received within said housing.

20 8. An assembly according to claim 6 or 7, in which the housing includes blade mounting means for supporting at least one radially extending blade (48) having a predetermined separation from said second side of the die plate and adapted to sever extrudate emerging therefrom in use.

25 9. An assembly according to any one of claims 6 to 8 in which the first and second coupling means comprise respective oppositely directed counter-sunk openings (80, 90).

30 10. An assembly according to any one of claims 6 to 9 in which the motor (52) is a hydraulic motor.

11. An assembly according to any one of claims 6 to 9 in which the die plate includes thermal insulation means between the fluid inlet and outlet passages and the extrudate apertures.

35 12. An assembly according to claim 11 wherein the insulation means comprises a gap.

13. An assembly according to claim 12 in which the gap is gas-filled.

5 14. A cutter assembly (46) for cutting extrudate comprising positioning means for positioning the assembly close to an extrudate outlet, a housing (47), a fluid-driven motor (52) receivable to be mountable in the housing, a cutting blade (48) and mounting means for mounting the blade to the housing (47), so that, on
10 actuation of the motor (52) in use, the blade (48) is caused to rotate into a path of movement of extrudate emerging from the said outlet, so as to sever it.

15 15. A cutter assembly according to claim 14 wherein the positioning means comprises coupling means for coupling the assembly to a die plate so that the blade (48) is located to be a predetermined distance from the plate.

16. A cutter assembly according to claim 15 in which the motor includes a fluid inlet directed toward the die plate to receive driving fluid therefrom.